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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,231	08/22/2001	Richard A. Mann	9785980-0023	8688

7590 01/29/2003

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EXAMINER

WOJCIECHOWICZ, EDWARD JOSEPH

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/935,231

Applicant(s)
Mann

Examiner
Edward Wojciechowicz

Art Unit
2815



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Nov 8, 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above, claim(s) 44-62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 8-13, 19-31, and 38-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 8, 11, 26, and 29, and their dependencies, the distinction between the conduction surface implant and the isolation surface implant is unclear. How does the structure of these two additional regions differ from each other, and from the main junction isolation region, as well? What is the specific structure and geometry of these regions, vis a vis the other regions of the device?

Claim 19 is unclear as to the specific structure of the "package". Claims 21-25 and 38-43, are indefinite as to the structure of the individual devices referred to. That is, the structure of the camera, telephone, PDA, etc. is undefined.

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Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

3. Claims 1-3, 5-16, 19-20, 26-33, 36, and 37 are rejected under 35 U.S.C. 102(e), insofar as they are understood, as being anticipated by Suzuki et al. The Suzuki reference shows the basic inventive structure and concept with a junction isolation (e.g. region (351) in Fig. 5) that serves to prevent contact between the photodiode and the trench isolation region (34). This reference also teaches the use of the same dopant materials and plurality of regions, as claimed, along with the use of a surface implant, as claimed.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

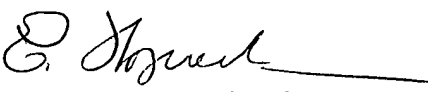
5. Claims 4, 17, 18, 21-25, 34, 35, and 38-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki, and further in view of Rhodes et al. Rhodes shows a similar device as that of Suzuki, and specifically mentions the use of this type of image sensor in such devices as CCDs, cameras, phones, etc. In addition, Rhodes also teaches the desirable dimensions for separating the photodiode region from the trench isolation used. This separation would be comparable to the thickness of the junction isolation region used in Suzuki, as discussed above. For example, see the discussion and suggested dimensions at paragraph [0043] of Rhodes. One would be motivated to apply these dimensions to the junction isolation region of Suzuki because both references want to avoid the deleterious effects that ensue when the sensor region is in direct contact with the trench isolation region.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Wojciechowicz, whose telephone number is (703) 308-4898.

Edward Wojciechowicz:ew

January 27, 2003


EDWARD WOJCIECHOWICZ
PRIMARY EXAMINER
GROUP 2500